Docket No.: PB0311
Filing Date: February 5, 2004
Inventor(s): S. Kumar, et al.
Title: Terminal-Phosphate-Labeled Nucleotides with New Linkers

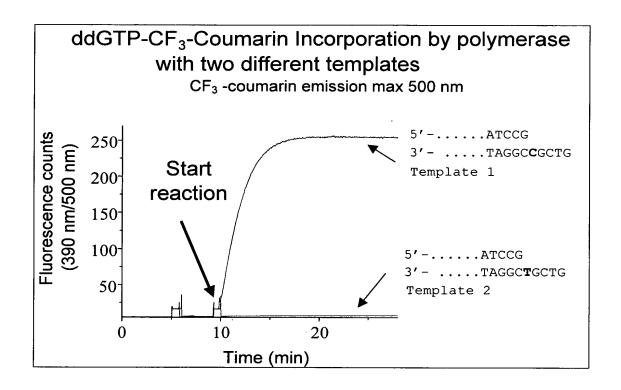


Figure 1

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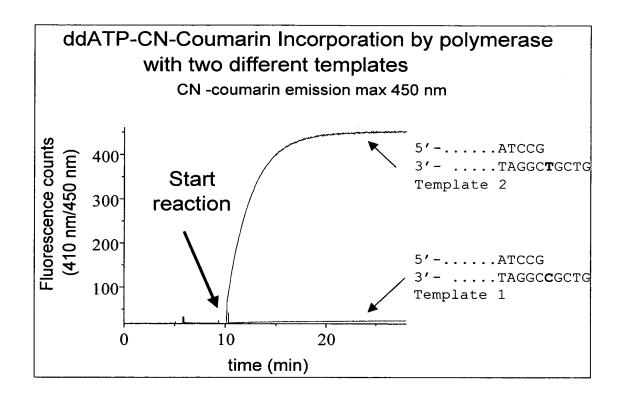


Figure 2

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The Effect of Mg and Mn ions on the incorporation of base labeled nucleotides and phosphate labeled nucleotides

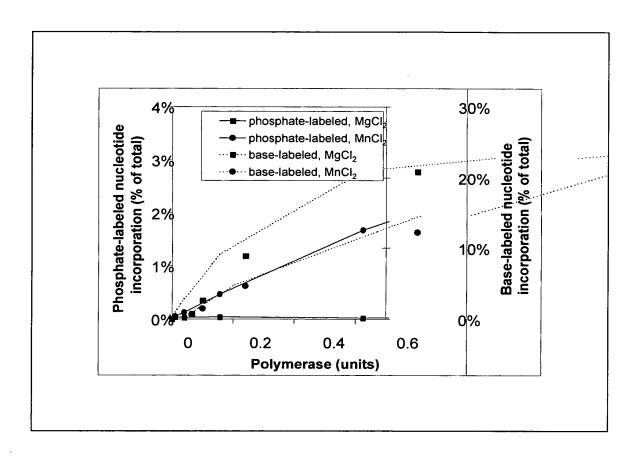


Figure 3

Incorporation rate vs. MnCl₂ concentration, at 5 mM MgCl₂. based on change in slope of REG fluorescence

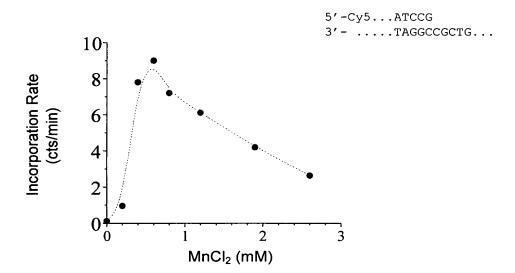


Figure 4

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Incorporation rate (initial slope) vs. [MnCl₂]

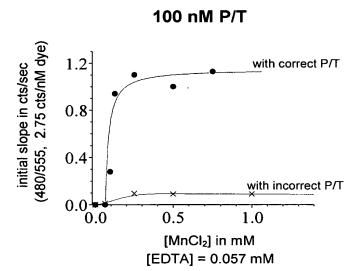
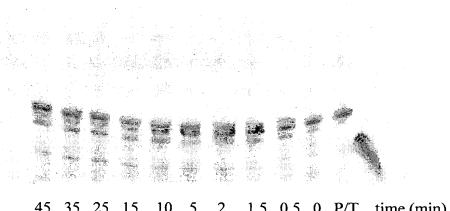


Figure 5

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No misincorporation of dCTP-DAH-ROX by Phi 29 exo using Mn⁺⁺

(at saturating dCTP-ROX, $25 \mu M$)



45 35 25 15 10 5 2 1.5 0.5 0 P/T time (min)

Primer/template

5'-Cy5...ATCCG

3'-TAGGCGACTG...

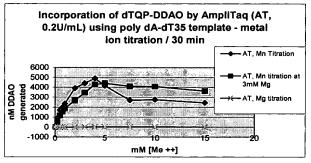
Figure 6

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Incorporation of dT4P-DDAO by different polymerases in the presence of Mn2+, Mg2+ and both Mn2+ and Mg2+



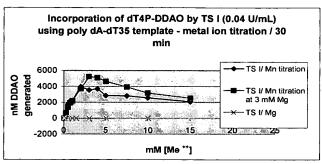
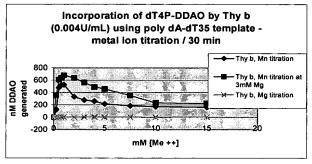


Figure 7A

Figure 7D



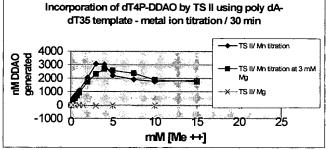


Figure 7B

Figure 7E

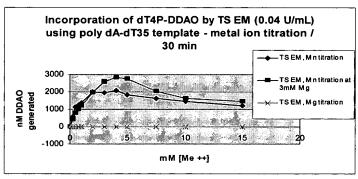


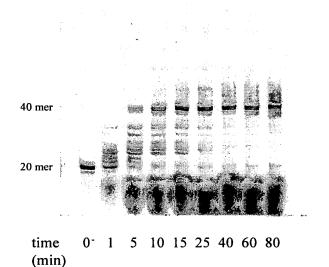
Figure 7C

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DNA synthesis using four DDAO analogs

1 µM each of dA-DDAO, dG-DDAO, dC-DDAO, dT-DDAO



Primer-template
5'-Cy5...ATCCG
3'-....TAGGCCGCTGTTGGTCTATTCCCAC-5'

Figure 8

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Analog incorporation by ΔTts depends on linker

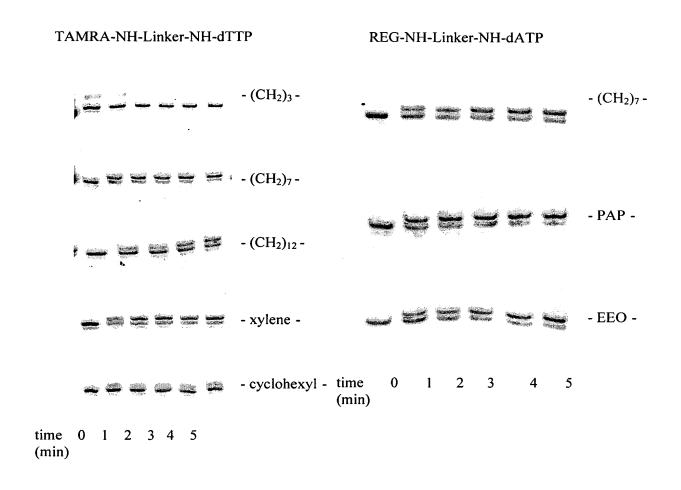


Figure 9